

1 **Q. IF THE COMMISSION CONSIDERS ADOPTING CHARGES FOR**
2 **COOPERATIVE TESTING, SHOULD THOSE CHARGES APPLY IN**
3 **CONNECTION WITH LINE SHARING?**

4 A. No, they should not. As we have explained, there is no justification for adopting
5 Verizon's proposed cooperative testing charges in the first place. However, under
6 no circumstances would such charges be applicable in connection with line
7 sharing, which makes use of existing (working) lines.

8 **Q. IF THE COMMISSION CONSIDERED ADOPTING CHARGES FOR**
9 **COOPERATIVE TESTING, SHOULD IT BASE THOSE CHARGES ON**
10 **VERIZON'S COST STUDIES?**

11 A. No. Verizon has built up this charge from task time estimates that include a total
12 (prior to application of occurrence factors) of *****BEGIN VERIZON**
13 **PROPRIETARY ** END VERIZON PROPRIETARY***** minutes of labor
14 time,¹⁵⁰ which substantially overstates the average time that efficient testing and
15 coordination should take on a forward-looking basis. In addition, Verizon has
16 applied an occurrence factor of more than 100% to the verification of dial tone.¹⁵¹
17 The result, a whopping *****BEGIN VERIZON PROPRIETARY ** END**
18 **VERIZON PROPRIETARY***** minutes merely to "verify that TC dial tone is
19 present on the assigned facility" is patently absurd, particularly for already
20 working lines (as are required for line sharing). Verifying dial tone requires

¹⁵⁰ Verizon VA Wholesale Non-Recurring Costs Model, Tab 76.

¹⁵¹ *Id.*

1 nothing more than clipping two leads to the subscriber terminal at the MDF and
2 dialing a simple code on a hand set that Verizon technicians routinely carry with
3 them.

4 **V. THE COMMISSION SHOULD REJECT VERIZON'S PROPOSED**
5 **"CONDITIONING" CHARGES.**

6 **Q. WHAT TYPES OF "CONDITIONING" CHARGES DOES VERIZON**
7 **PROPOSE TO ASSESS NEW ENTRANTS THAT SEEK TO PROVIDE**
8 **ADVANCED SERVICES IN VIRGINIA USING UNBUNDLED DSL-**
9 **CAPABLE LOOPS?**

10 A. Verizon has proposed four basic charges for loop "conditioning." For bridged
11 taps in excess of 6,000 feet, Verizon proposes a charge of \$243.37 when only one
12 bridged tap needs to be removed¹⁵² and a charge of \$587.55 when multiple
13 bridged taps need to be removed from a loop (of less than 18 kilofeet). For
14 removal of load coils on a loop of between 18 and 21 kilofeet,¹⁵³ Verizon
15 proposes a charge of \$1,017.95; for removal of load coils on a loop of between 21
16 and 27 kilofeet, Verizon proposes to charge \$1,352.54. In addition to these basic

¹⁵² Verizon has not proposed to charge for removal of bridged tap over 6,000 feet on loops less than 18,000 feet. It is entirely appropriate for Verizon to remove bridged tap that exceeds its own design standards without charge. However, the offer to remove bridged tap in excess of 6,000 feet does not go far enough to meet the engineering design standards. The Carrier Serving Area ("CSA") design standard, which has been in place since 1980, limits the total amount of bridged tap on a line to 2,500 feet. Moreover, a prior design standard, the Serving Area Concept ("SAC") in place since 1972, called for bridged tap to be minimized.

¹⁵³ Verizon has not proposed to charge for removal of load coils from loops under 18,000 feet.

1 charges, Verizon proposes to charge \$640.47 for the Engineering Work Order
2 purportedly required to provide “conditioning.” This charge would be applied to
3 *every* “conditioning” job.

4 In addition, Verizon has proposed an “Add Electronics” charge that would
5 apply to some ISDN/IDSL loops.

6 **Q. SHOULD THE COMMISSION PERMIT VERIZON TO IMPOSE ITS**
7 **PROPOSED NON-RECURRING “CONDITIONING” CHARGES ON**
8 **COMPETITORS?**

9 A. No. Verizon’s proposed non-recurring “conditioning” charges are fundamentally
10 inconsistent with the economic principles that guide the pricing of all unbundled
11 network elements, including DSL-capable loops in at least three important
12 respects. First, Verizon’s proposed “conditioning” charges do not reflect an
13 efficient, forward-looking network architecture. Second, the combination of
14 Verizon’s proposed recurring charges and its proposed non-recurring
15 “conditioning charges would recover more than the total forward-looking
16 economic cost of a “conditioned” loop. For both of these reasons, Verizon should
17 not be allowed to impose *any* non-recurring “conditioning” charges on
18 competitors. Third, Verizon’s proposed “conditioning” charges do not reflect the
19 tasks and task times that an efficient carrier would experience for removing load
20 coils and excessive bridged tap. Thus, even if it were appropriate to levy a non-
21 recurring “conditioning” charge, it would not be appropriate to allow Verizon to
22 impose the high charges that it has proposed.

1 **A. VERIZON’S PROPOSED “CONDITIONING” CHARGES ARE**
2 **NOT FORWARD-LOOKING.**

3 **Q. IS THE NETWORK ARCHITECTURE ON WHICH VERIZON HAS**
4 **BASED ITS NON-RECURRING “CONDITIONING” CHARGES**
5 **FORWARD-LOOKING?**

6 A. No. The premise that Verizon must remove load coils, excessive bridged taps or
7 repeaters to render a loop suitable for the provision of DSL-based services is
8 based on Verizon’s embedded network. A forward-looking network architecture
9 would not contain such load coils, excessive bridged tap or repeaters because they
10 violate the network engineering guidelines in place for over two decades.¹⁵⁴
11 Indeed, the recurring loop cost studies Verizon submitted to the Commission do
12 not include any load coils and reflect cable sizing that is sufficient to provide
13 dedicated facilities for all existing and reasonably foreseeable loop demand
14 without resorting to the use of bridged tap. Thus, Verizon has admitted that a
15 forward-looking network would not require “conditioning” to provision DSL-
16 capable loops. Indeed, Verizon witness Francis J. Murphy argued in a recent
17 Maryland universal service proceeding that minimization of “conditioning” costs
18 is a critical attribute of a forward-looking network. According to Mr. Murphy:

¹⁵⁴ A forward-looking network is designed to meet Carrier Serving Area (“CSA”) guidelines, which have been the standard for more than 20 years. A network built to CSA guidelines does not include inhibitors such as load coils and excessive bridged taps that require loops to be “de-conditioned” before they can be used to provide DSL-based services.

1 In its First Report and Order, the FCC mandated
2 that ILECs condition loops for data transmission if
3 technically feasible. Therefore, it is in the interest
4 of both ILECs and their competitors that the
5 forward-looking network used to provide both
6 UNEs and basic service be constructed in a manner
7 that will minimize conditioning costs.¹⁵⁵

8 Verizon can only propose non-recurring “conditioning” charges by proposing that
9 its non-recurring charges be based on a different network architecture that is not
10 forward-looking and does not “minimize conditioning costs” in the way that its
11 own witness has advocated.

12 As Ms. Murray explains in both her direct testimony and her separately
13 filed rebuttal to Drs. Gordon and Shelanski, the assumption of different network
14 architectures in the recurring and non-recurring cost studies for the same network
15 element violates the Commission’s requirement for total cost minimization and
16 creates a significant risk of double-counting.

17 **Q. HAVE ANY STATE REGULATORS COME TO THIS CONCLUSION?**

18 **A.** Yes, several state commission have agreed that, given the network architecture in
19 Verizon’ recurring cost study, no “conditioning” charge are appropriate. The
20 Massachusetts Department of Telecommunications and Energy recently concluded
21 that Verizon’s proposed “conditioning” charge was not consistent with its

¹⁵⁵ Rebuttal Testimony of Francis J. Murphy on behalf of Verizon Maryland in Maryland Public Service Commission Case No. 8745, May 21, 2001, at 22.

1 recurring costs.¹⁵⁶ The Public Service Commission of Maryland similarly found
2 that:

3 Based upon the Commission's and the FCC's
4 pricing guidelines, rates for the line sharing UNE
5 are required to be based upon a forward-looking
6 network. In such a network, loop conditioning, or
7 rather de-conditioning, would not be required for a
8 fiber-fed loop, and the only existing copper loops
9 would be less than 18,000 feet for which Verizon
10 has indicated there will be no charge.

11 As noted earlier, Verizon has argued that the FCC's
12 *Line Sharing Order* expressly allows them to
13 recover loop-conditioning costs. The Commission
14 disagrees with this interpretation. The FCC's
15 directives related to recovery of loop conditioning
16 costs are only relevant to states that have assumed
17 copper feeder for purposes of calculating forward
18 looking costs. The FCC has not directed states to
19 assume copper feeder in calculating these costs.
20 Without such a directive, it would be illogical for
21 the FCC to mandate recovery of costs that are
22 relevant only to a network assumption that may not
23 have been approved in a particular state.¹⁵⁷

24 The Utah Public Service Commission has likewise found that:

25 A TELRIC model (or a forward-looking, efficient
26 provider) would not design a network that required
27 loops to be conditioned or groomed before services
28 today's customers expect could be provided. It
29 follows, and we so conclude, that the buyer of an
30 unbundled loop should not have to pay for any such
31 upgrading: the price of the loop presupposes
32 sufficient quality, by which is meant a loop capable

¹⁵⁶ *Massachusetts Order* at 103.

¹⁵⁷ Public Service Commission of Maryland Order 76852 at 34-35, footnotes excluded.

1 of meeting not just current demands but demands
2 for advanced services as well. Accordingly, we
3 disallow charges for line conditioning or
4 grooming.¹⁵⁸

5 **B. VERIZON SUBSTANTIALLY INFLATES LOOP**
6 **“CONDITIONING” COSTS BY FAILING TO INCORPORATE**
7 **EFFICIENT ENGINEERING PRACTICES IN ITS COST STUDIES.**

8 **Q. ARE VERIZON’S PROPOSED “CONDITIONING” CHARGES**
9 **REASONABLE?**

10 A. No. Even assuming that it were consistent with TELRIC principles to levy a non-
11 recurring “conditioning” charge, Verizon’s proposed “conditioning” charges are
12 excessively high. Including the exorbitant “Engineering Work Order” charge that
13 Verizon would impose for each “conditioning” job, Verizon has proposed charges
14 of \$883.84 for removing one bridged tap, \$1,228.02 for removing multiple
15 bridged taps, and \$1,658.42 and \$1,993.01, respectively, for removal of load coils
16 from loops of between 18 and 21 kilofeet and between 21 and 27 kilofeet.
17 Moreover, these charges do not include the excessive loop “qualification” charges
18 that Verizon would likely impose before “conditioning” could even begin.

19 These non-recurring charges are sufficiently high that they would, if
20 adopted, create an almost insurmountable barrier to entry in Virginia for DSL
21 providers seeking to serve customers with either long loops or shorter loops that

¹⁵⁸ Utah Public Service Commission Phase III Part C Report and Order in Docket No. 94-999-01, issued June 2, 1999, footnote omitted. An electronic copy of this order is available at http://www.psc.state.ut.us/telecom/99orders/jun/9499901ro.htm#N_4_.

1 happen to have excessive bridged taps. Verizon's proposed non-recurring
2 "conditioning" charges are so high that they exceed, in some cases by many
3 multiples, the entire forward-looking cost to build a new unbundled loop. These
4 proposed "conditioning" charges reflect unreasonably high cost estimates, even
5 for the "conditioning" of outdated, embedded plant.

6 **Q. IS THE METHODOLOGY ON WHICH VERIZON HAS BASED ITS**
7 **PROPOSED NON-RECURRING "CONDITIONING" CHARGES A**
8 **RELIABLE BASIS FOR SETTING PRICES?**

9 A. No. Verizon derived its work-time estimates for "conditioning," as it did for most
10 of its non-recurring cost estimates, by surveying its employees across the region.
11 As we have already indicated, Verizon committed numerous errors in survey
12 design, data collection and data processing. Our examples have shown that many
13 of these errors are particularly egregious with respect to "conditioning" activities,
14 contributing to the inflation of Verizon's study results and rendering those results
15 useless for estimating efficient costs.

16 Similarly, although Verizon's cost panel asserts that "typical occurrence
17 factors and forward-looking adjustment factors were applied to obtain forward-
18 looking time estimates for the work activities required to complete the specific
19 qualification and conditioning tasks,"¹⁵⁹ this does not appear to be the case with
20 respect to "conditioning" or "Engineering Work Order" work-steps. Verizon

¹⁵⁹ Verizon Cost Panel Direct at 140.

1 assigned an occurrence factor of less than 100% to only one task included in the
2 “conditioning” studies, “send tone.” In addition, Verizon made no forward-
3 looking adjustments to any of its estimated “conditioning” times. In both
4 respects, Verizon’s methodology is severely flawed, as we demonstrate in
5 Attachment A.

6 **Q. IS THERE ONE MAJOR FLAW IN VERIZON’S APPROACH THAT IS**
7 **RESPONSIBLE FOR MOST OF THE GAP BETWEEN VERIZON’S**
8 **REPORTED COSTS AND THE COST TO “CONDITION” A LOOP BY**
9 **REMOVING LOAD COILS OR BRIDGE TAP USING EFFICIENT**
10 **ENGINEERING PRACTICES?**

11 A. Yes. Verizon has greatly inflated its reported costs by developing those costs as if
12 it would “condition” loops one-at-a-time. For example, Verizon assumes that it
13 will remove load coils pursuant to each specific request and would remove the
14 load coil from an individual loop. To the contrary, it is a standard, efficient
15 engineering practice to deload more than entire binder groups (typically 25 loops)
16 at one time. Similarly, it is unusual and inefficient to remove bridge tap one-loop-
17 at-a-time as Verizon’s assumes will always be the case.

18 For numerous reasons, which we explain in detail in Attachment A, the
19 Commission should base any charge for removing load coils on the assumption
20 that Verizon will, on average, deload 25 pairs at a time on loops longer than
21 18,000 feet. Similarly, the Commission should assume that Verizon will, on
22 average, unbridge 50 pairs at a time.

1 **Q. ON WHAT BASIS COULD THE COMMISSION ESTABLISH**
2 **“CONDITIONING” CHARGES THAT REFLECT ENGINEERING**
3 **PRACTICES GENERALLY EMPLOYED IN THE**
4 **TELECOMMUNICATIONS INDUSTRY AND REASONABLY**
5 **EFFICIENT TASK TIME ESTIMATES?**

6 **A. The Commission could establish such charges based on the tasks and work-times**
7 presented in Attachment A. Working in collaboration with Mr. John C. Donovan,
8 Mr. Riolo developed the alternative tasks and task time estimates supplied in
9 Attachment A based on over thirty years of personal experience in performing
10 such operations and in supervising others who performed such operations.
11 Attachment A also contains restated tasks and work times for the Engineering
12 Work Order element. (As we noted above, Verizon proposes to levy an
13 Engineering Work Order charge for each individual “conditioning” order.)

14 Our analysis shows that the total average time for removing all load coils
15 from a loop is just over 22 minutes per pair and that the total average time for
16 removing a bridged tap from a loop is just over one minute per pair. At a labor
17 rate of \$45, for example, a load coil removal charge of \$16.63 per pair and a
18 bridged tap removal charge of \$0.89 would apply.¹⁶⁰

¹⁶⁰ This discussion uses an illustrative labor rate, which is intended to be conservative, to show an upper bound for efficient “conditioning” costs that does not need to be treated as proprietary. It is a simple matter to substitute any adopted labor rate and any applicable shared and common cost to develop a final, Verizon-specific result.

1 **Q. DO YOU PROPOSE THAT THE VALUE OF THE RESTATED**
2 **ENGINEERING WORK ORDER COST BE ASSUMED FOR EACH**
3 **SERVICE REQUEST THAT REQUIRES “CONDITIONING”?**

4 **A.** No. Should the Commission decide to compensate Verizon for an engineering
5 cost associated with “conditioning” loops, the Commission should recognize that
6 an efficient company would only need to issue one Engineering Work Order for
7 each job to “condition” multiple loops. Thus, at most, the Commission should
8 only allow Verizon to recover the restated Engineering Work Order cost on a “per
9 unit basis,” with the cost spread across the average number of loops to be
10 “conditioned” per order. Based on a hypothetical labor rate of \$45 per hour, the
11 Engineering Work Order would add from \$0.90/pair to \$1.86/pair (\$45 per hour
12 multiplied 1.2 and 2.48 minutes per pair, respectively) for removing load coils and
13 from \$0.45/pair to \$0.93/pair for removing bridged tap (\$45 per hour multiplied
14 0.6 and 1.24 minutes per pair, respectively).

15 **C. VERIZON’S PROPOSED NON-RECURRING CHARGE TO “ADD**
16 **ISDN ELECTRONICS (REPEATER) IS YET ANOTHER**
17 **EXAMPLE OF DOUBLE-COUNTING AND EXCESSIVE COSTS.**

18 **Q. PLEASE DESCRIBE VERIZON’S PROPOSED NON-RECURRING**
19 **CHARGE TO ADD ISDN ELECTRONICS (REPEATER).**

20 **A.** Verizon proposes a non-recurring charge of \$1,118.11 to “Add Electronics” that
21 would be required to provision ISDN-type service over longer all-copper loops. A
22 substantial portion of Verizon’s direct cost estimate for this element consists of
23 the material cost for the repeater itself. The remainder of Verizon’s reported cost
24 is for engineering, central office and outside plant technician time required to

1 install the repeater system. With Verizon's proposed Engineering Work Order
2 charge, the total charge for Add ISDN Electronics would be \$1,758.58.

3 **Q. IS VERIZON'S PROPOSED ADD ELECTRONICS CHARGE**
4 **REASONABLE?**

5 A. No. First, as is the case with Verizon's costs for loop "qualification" and
6 "conditioning," Verizon's reported non-recurring cost for this element is
7 duplicative of costs recovered through its recurring charges for digital (*i.e.*, ISDN
8 or IDSL-capable) loops. Verizon's existing forward-looking recurring costs for
9 the digital line would already include the cost for the required electronics —
10 regardless of loop length. Furthermore, ISDN repeaters are required for long
11 copper facilities, but not for the fiber and DLC systems assumed in the approved
12 forward-looking recurring cost studies for unbundled loops. Competitors are
13 paying more for ISDN loops than for analog loops, and the increment that
14 competitors are paying on a recurring basis to Verizon reflects the costs of
15 providing ISDN over fiber for loops of all lengths. Verizon's proposed non-
16 recurring charge is for the exact same capability—but under the assumption of a
17 different, all-copper network. For the reasons we previously discussed, Verizon
18 should not be allowed to assume fiber-fed DLC in its recurring cost analysis and,
19 at the same time, propose a hefty non-recurring charge to recover the cost of
20 repeaters needed to provide ISDN-type services over longer copper loops that
21 would not even exist in the forward-looking network architecture assumed in the
22 recurring cost study.

1 Second, Verizon should have treated the repeater material cost as a
2 recurring cost, as the company would ordinarily treat its other loop investments.
3 A repeater is a relatively discrete network component, with a high degree of
4 reusability or “fungibility.” There is no valid reason to assume that Verizon could
5 not use the same repeater to serve a future customer at the same location, or else
6 reuse the repeater to provide ISDN services to a different wholesale or retail
7 customer of the company. Indeed, the repeater that Verizon uses for a competitor
8 tomorrow could well be one that it removed from service from one of its retail
9 customers last week. It is therefore discriminatory and anticompetitive for
10 Verizon to treat the repeater investment entirely as an up-front, non-recurring cost
11 when it is being used to provide service to new entrants.

12 Third, Verizon’s Cost Panel admits that the “cost of the investment is
13 Verizon VA’s actual, *current* purchase price for the electronics.”¹⁶¹ Verizon’s
14 proposed charge is not forward-looking in any respect.

15 **Q. DOES VERIZON’S COST PANEL TESTIMONY ILLUSTRATE HOW**
16 **COSTS CAN BE DOUBLE-COUNTED AS THE RESULT OF APPLYING**
17 **INCONSISTENT ASSUMPTIONS TO DIFFERENT ELEMENTS?**

18 A. Yes. Verizon’s assertion at page 163 that it has not double-counted ISDN costs
19 provides an instructive example. Verizon attempts to rebut our argument here by
20 asserting that it did not already include the cost “of extension electronics for use

¹⁶¹ Verizon Cost Panel Direct at 162, emphasis added.

1 on copper loops” in its recurring cost study. Verizon’s claim, while literally true,
2 is highly misleading.

3 Verizon did not include the costs for copper-based extension technology in
4 its recurring costs because it did not include any long copper loops in its study.
5 Hence, Verizon assumed that no loops that could use copper-based extension
6 technology would exist in its forward-looking network. Verizon did, however,
7 include costs for the same functionality based on the loop design that it did
8 include in its study. Instead of using copper, Verizon assumed that long ISDN-
9 capable loops would be provided over fiber. It therefore added the substantial
10 additional cost for the electronics required to support ISDN over fiber to the
11 recurring cost of all long ISDN-capable loops.

12 Putting together the two parts of Verizon’s proposal, Verizon would
13 include the cost of both copper and fiber ISDN extension technology in the cost of
14 every ISDN-capable loop that a competitor purchases. This is a straightforward
15 case of double-counting that is, in part, masked by Verizon’s disjointed approach
16 to developing recurring and non-recurring costs.

17 **Q. WHAT IS YOUR RECOMMENDATION TO THE COMMISSION**
18 **CONCERNING THE ADD ISDN ELECTRONICS (REPEATER)**
19 **CHARGE?**

20 **A.** The Commission should reject Verizon’s proposed ancillary charge for Add ISDN
21 Electronics (Repeater).

1 **VI. VERIZON'S PROPOSED LOOP "QUALIFICATION" COST ANALYSIS**
2 **IS INAPPROPRIATE.**

3 **Q. HOW HAS VERIZON PROPOSED TO PROVIDE LOOP**
4 **"QUALIFICATION" DATA TO COMPETITORS?**

5 A. Verizon has proposed three separate loop "qualification" elements in this
6 proceeding: (1) Mechanized Loop Qualification through which competitors
7 would access Verizon's automated loop qualification database, for which Verizon
8 proposes a monthly recurring per link charge of \$0.26; (2) Manual Loop
9 Qualification in which Verizon would "qualify" a loop manually, for which
10 Verizon proposes a non-recurring charge of \$114.52; and (3) an Engineering
11 Query through which a competitor would be able to obtain more specific loop
12 makeup information, for which Verizon proposes a non-recurring charge of
13 \$139.42.

14 **Q. WHAT COSTS IS VERIZON'S MECHANIZED LOOP QUALIFICATION**
15 **CHARGE INTENDED TO RECOVER?**

16 A. Verizon's proposed monthly recurring charge for Mechanized Loop Qualification
17 is designed to recover the cost of creating and maintaining an automated loop
18 qualification database that the company designed to provide a "yes/no" indication
19 regarding DSL qualification as determined by Verizon for its former xDSL retail
20 offerings, as well as the costs of updating Verizon's legacy databases with loop
21 qualification information.

1 **Q. IS IT REASONABLE TO EXPECT COMPETITORS TO FUND THE**
2 **DEVELOPMENT OF VERIZON’S LOOP QUALIFICATION**
3 **DATABASE?**

4 **A** No. It is not appropriate to impose the costs of developing of Verizon’s retail
5 database on competitors. Even if Verizon had designed the database in a manner
6 that facilitated the wholesale provision of qualified DSL-capable unbundled loops,
7 rather than to benefit Verizon’s retail operations, then as an economic matter,
8 those costs would fall within the scope of the competition-onset costs that
9 AT&T/WorldCom’s Recurring Cost Panel discusses in its concurrently-filed
10 rebuttal testimony with respect to Verizon’s access to OSS charges. To the extent
11 that Verizon would not otherwise have incurred such costs in the routine course of
12 doing business from a forward-looking perspective (*e.g.*, to upgrade and improve
13 the efficiency of the incumbent’s own operations), Verizon should recover such
14 competition-onset costs in a competitively neutral manner.

15 Furthermore, information provided by a Verizon VA affiliate makes clear
16 that the LFACS updates for which Verizon seeks to charge new entrants would
17 actually have a lasting benefit for all subsequent service orders involving that loop
18 an thus should not be imposed solely on competitors. According to Verizon-New
19 York:

20 In order to ensure that a request for an ADSL-
21 qualified loop can be processed on a mechanized
22 basis, loop make-up information and the Count
23 Qualification code must be present in the LFACS

1 database. *This information is used by LFACS to*
2 *assign a facility with the appropriate*
3 *characteristics based upon the type of service*
4 *requested.*¹⁶²

5 The cost of such database updates appears to be a significant portion of
6 Verizon's mechanized loop qualification cost.¹⁶³ Thus, it appears that Verizon is
7 attempting to force new entrants to fund its efforts to clean-up and update its
8 embedded databases that are useful for retail as well as wholesale service. Thus,
9 insofar as it is appropriate to include *any* costs for database updates, Verizon
10 should have treated those costs as recurring costs spread over the relevant total
11 increment of demand, namely, all loops in its service territory.

12 Moreover, Verizon should not have included these database update costs
13 in any portion of a forward-looking, long-run cost study, because Verizon should
14 have been entering this information routinely into LFACS. If Verizon had
15 maintained its LFACS records in a complete manner, it would not be necessary
16 for Verizon to perform the update activities at the time a new entrant ordered a
17 DSL-capable loop.

¹⁶² Verizon-New York's Response to RL-BA-5 in NYPSC Case 98-C-1357 (emphasis added).

¹⁶³ See Verizon Exhibit Part B-13 at Workpaper 3.

1 **Q. IS VERIZON’S PROPOSED MECHANIZED LOOP QUALIFICATION**
2 **CHARGE APPROPRIATE?**

3 A. No. Verizon designed its mechanized loop qualification database specifically
4 around the needs of its retail DSL operations. Verizon’s database is less useful to
5 competitors and is more expensive than would be read-only access to Verizon’s
6 underlying databases. Verizon’s current mechanized loop qualification porcess
7 provides a summary “yes/no” indicator that reports whether the loop in question
8 meets the technical requirements of Verizon’s retail ADSL offering, “Infospeed
9 DSL.” Such an indicator, specific to the equipment of Verizon’s vendor and the
10 deployment decisions that Verizon has made for its own (or its affiliate’s) retail
11 service offering, is clearly not relevant to a competitor’s service offerings.
12 Furthermore, it masks the underlying loop makeup data that Verizon’s own
13 engineers must evaluate to determine the suitability of particular loops for
14 Verizon’s retail ADSL service. It seems that Verizon envisions that this more
15 detailed loop makeup information would only be available to competitors at a
16 heavy premium through the manual loop qualification or engineering query
17 process.¹⁶⁴

18 The Commission should require Verizon to provide direct read-only
19 access to the databases that Verizon’s own personnel use, via an electronic
20 interface. We acknowledge that Verizon is making efforts to expand the

¹⁶⁴ See, e.g., Verizon Cost Panel Direct at 128-129 and 136-137.

1 information included in its mechanized loop qualification database to take some
2 account of additional information that competitors might require to do their own
3 qualification.¹⁶⁵ Providing that additional detail is not the same as providing
4 competitors with equal access to the underlying data that Verizon can access to
5 develop its own qualification processes. All that competitors seek is to have read-
6 only access to this underlying data, which Verizon admits exists in LFACS and
7 similar databases. At a minimum, competitors should only have to pay for the
8 mechanized access to LFACS, not for Verizon's separate mechanized loop
9 qualification database, which it developed based on retail needs, not the needs of
10 competitors.

11 **Q. IS DIRECT READ-ONLY ACCESS TO VERIZON'S DATABASES WITH**
12 **LOOP MAKEUP INFORMATION FEASIBLE?**

13 A. Yes. It is entirely feasible for Verizon to provide a direct read-only access to
14 LFACS and similar databases, where much of the basic information that a
15 competitor would need to determine whether a loop is qualified for its intended
16 DSL application resides.¹⁶⁶ Verizon field operations personnel have been able to
17 obtain such access for years.

¹⁶⁵ See, e.g., Verizon Cost Panel Direct at 130.

¹⁶⁶ See Verizon-New Jersey's Response to Covad Request 1-43, New Jersey BPU Docket No. TO00060356.

1 Even Verizon accepts that there is not any activity associated with loop
2 qualification that a competitor with trained and experienced personnel could not
3 perform on its own behalf if it had access to the same records, databases, and test
4 systems.¹⁶⁷ Given such access, many or all of the engineering activities for which
5 Verizon seeks compensation through loop “qualification” charges would be
6 unnecessary.

7 **Q. IS VERIZON’S REPORTED MECHANIZED LOOP QUALIFICATION**
8 **COST PROBLEMATIC IN ANY OTHER RESPECT?**

9 A. Yes. Although Verizon’s study shows task times per line, Verizon has admitted
10 that it does not actually perform any of the related tasks on a line-by-line basis.
11 Instead, Verizon issues electronic commands and performs batch tasks that affect
12 numerous lines at a time. Whatever information Verizon might have used to
13 derive the artificial per-line task times that appear in its study is still entirely
14 hidden. Therefore, not only is it impossible to check the logic of Verizon’s
15 conversions, it is also impossible to investigate if Verizon’s results are within the
16 realm of reason. That is the case because no one at Verizon has ever performed
17 line-by-line tasks that actually correspond with the times shown in the study.

18 It is clear that the study erroneously amortizes costs over the expected
19 duration of an individual competitor’s lease of that loop to provision xDSL-based

¹⁶⁷ See Verizon-New Jersey’s Response to WorldCom Request 3-25, New Jersey BPU Docket No. TO00060356.

1 services. This modeling assumption understates the useful life of the information
2 in the database. The loop makeup data related to the line will remain in the
3 database, and subsequent competitors can use that same information to determine
4 whether to obtain that unbundled loop to provision xDSL-based service to the
5 same end-user or any future end-user served by the same loop facility.

6 Finally, from a cost-causation perspective, it makes more sense to charge
7 for loop qualification on a per-query basis, just as Verizon charges for other
8 database queries.

9 **Q. WHAT IS AN APPROPRIATE FORWARD-LOOKING COST-BASED**
10 **PRICE FOR ACCESS TO LOOP MAKEUP INFORMATION, BASED ON**
11 **EFFICIENT ELECTRONIC ACCESS TO THAT INFORMATION?**

12 A. As Ms. Murray discussed in her direct testimony, the forward-looking cost of
13 providing loop makeup information electronically per query should be *de minimis*.
14 Therefore, Verizon should not levy a separate charge for access to loop makeup
15 information.

16 **Q. IS IT APPROPRIATE FOR VERIZON TO CHARGE COMPETITORS**
17 **FOR MANUAL LOOP QUALIFICATION OR AN ENGINEERING**
18 **QUERY?**

19 A. No. A forward-looking cost study of access to loop makeup information should
20 assume that competitors have nondiscriminatory access to databases providing
21 information relevant to loop makeup. Therefore, the Commission should reject

1 Verizon's proposed Manual Loop Qualification and Engineering Query
2 charges.¹⁶⁸

3 **Q. WHAT INFORMATION DOES VERIZON PROPOSE TO PROVIDE AS**
4 **PART OF MANUAL LOOP QUALIFICATION?**

5 A. Verizon's proposed Manual Loop Qualification function would provide a
6 competitor some limited additional information beyond that contained in the basic
7 fields of the database. As a result of the manual loop qualification process, "the
8 CLEC will be advised if the loop is qualified for xDSL *per Verizon standards*."¹⁶⁹

9 **Q. WHEN DOES VERIZON PROPOSE TO APPLY ITS PROPOSED NON-**
10 **RECURRING CHARGE FOR MANUAL LOOP QUALIFICATION?**

11 A. Not only would Verizon apply the manual charge when a competitor specifically
12 requests the level of information that it provides, but it is our understanding that
13 Verizon also would impose the Manual Loop Qualification charge for loops in
14 central offices that have yet to be added to the company's mechanized loop
15 qualification database.

¹⁶⁸ Should a carrier request the information manually or require some level of detail that would not normally be mechanized, it might be appropriate to apply a manual charge for that specific case.

¹⁶⁹ Verizon Cost Panel Direct at 137, emphasis added.

1 **Q. IS IT REASONABLE FOR VERIZON TO CHARGE COMPETITORS**
2 **FOR MANUAL LOOP “QUALIFICATION” IN THIS MANNER?**

3 A. No, it is not. Manual loop qualification for loops in central offices that have yet to
4 be input into the electronic database is clearly an interim, inefficient process and
5 therefore is not, by definition, a charge based on *long-run* costs. Moreover,
6 providing Verizon compensation for whatever manual, inefficient process it
7 invents for competitors creates the wrong incentive. As long as Verizon can pass
8 along to its competitors the cost of whatever manual, short-run processes it
9 imposes, the company will have every incentive to delay implementation of more
10 efficient, electronic interfaces. Indeed, with such a pricing policy, Verizon will
11 have an incentive to delay implementing mechanized handoffs for all future
12 provisioning enhancements related to new services so as to keep the costs of its
13 potential rivals artificially inflated. Thus, the Commission should not permit
14 Verizon to assess a manual loop “qualification” charge for competitors to obtain
15 information that should be available in the short run (let alone in the long run) in a
16 mechanized fashion.

17 **Q. SHOULD THE INFORMATION THAT COMPETITORS REQUIRE BE**
18 **UBIQUITOUSLY AVAILABLE IN VERIZON’S MECHANIZED**
19 **SYSTEMS?**

20 A. Yes, with rare exceptions. It should be possible to access data regarding the
21 majority of loops from existing legacy systems such as LFACS; there should be
22 no need to develop new loop makeup databases or to update existing databases.

1 Incumbents installed loop inventory management databases such as
2 LFACS, in different forms, over 20 years ago. The incumbents use these
3 databases to assign loops; therefore, the databases contain at least some loop
4 makeup information on each and every loop. Although the incumbents did not
5 fully populate these databases with all the categories of loop makeup data at their
6 inception, it has long been standard within the industry that all plant changes
7 should be input to the databases on a going forward basis. The incumbents'
8 engineering personnel were supposed to enter the modified loop makeup of
9 existing plant into the database any time the plant was altered. Given the
10 frequency of plant additions, changes, rearrangements, and removals over the past
11 20+ years, the necessary loop makeup data for virtually all of the Verizon's plant
12 should now reside in the relevant databases.

13 To the extent that information needed for loop qualification resides only in
14 Verizon's "plats" (which are paper plant records), rather than in electronic
15 databases, it reflects Verizon's failure to populate its databases as it should have
16 given the upgrades that Virginia ratepayers have been funding for years.

17 **Q. IF THE LOOP MAKEUP INFORMATION IS MISSING FROM**
18 **VERIZON'S DATABASES, WHO SHOULD BEAR THE COSTS FOR**
19 **MANUALLY OBTAINING THE INFORMATION?**

20 A. It is Verizon's responsibility to follow its own practices for fully and accurately
21 populating its databases, and maintaining those databases in such a way that they
22 contain accurate information. The costs for populating and maintaining OSS
23 databases have traditionally been passed on to consumers as part of recurring

1 costs. In a competitive environment, the incumbent should pay for error
2 correction, should it be found that existing practices are either not being followed,
3 or are not being done accurately. If loop qualification information that should
4 have been in LFACS is missing, then Verizon should obtain the appropriate
5 information, correct its own database(s), and provide the information to the
6 requesting carrier, in an expeditious manner, without new charges being imposed
7 on the competitor. If anything, Verizon should be compensating the competitor
8 for harmful delay associated with waiting for the information to be obtained
9 manually, rather than via a real-time mechanized interface.¹⁷⁰

10 **Q. IS VERIZON'S ENGINEERING QUERY CHARGE REASONABLE?**

11 A. No, it is not. The cost support for Verizon's proposed Engineering Query charge
12 contains tasks that would not occur given a forward-looking, least-cost analytical
13 framework, and also assumes task times which appear to be excessive. These
14 assumptions have inflated Verizon's claimed costs for this activity beyond a
15 reasonable level.

¹⁷⁰ Moreover, even if the Commission does not hold Verizon accountable for providing access to the information that is supposed to be in its databases, it might be substantially more efficient simply to allow the competitor to test lines for loop qualification for themselves when mechanized records are not available, as opposed to Verizon's extreme proposed costs for looking up data on paper records.

1 **Q. WHAT DEFICIENCIES HAVE YOU IDENTIFIED IN VERIZON’S COST**
2 **SUPPORT FOR ITS PROPOSED MANUAL QUALIFICATION-RELATED**
3 **ENGINEERING QUERIES?**

4 A. A particularly egregious example of Verizon’s loading of unnecessary and
5 redundant costs into the Engineering Query occurs at Steps 15 through 18 of the
6 Facilities Management Center.¹⁷¹ The specific activities occurring therein are:

7 Step 15: “Create worksheet indicating the length of the run, the gauge of
8 the wire and location of any bridged tap(s), load coils or DLC.”

9 Step 16: “Complete loop make-up form from the worksheet.”

10 Step 17: “Update LFACS DB with length, gauge, bridged tap(s), load
11 coils and DLC information and update LIVEWIRE with ADSL loop length.”

12 Step 18: “Forward information to the TISOC.”

13 The first cost overstatement in this portion of Verizon’s study is the
14 inclusion of Step 17. In that step, the Verizon employee is updating Verizon’s
15 LFACS and LIVEWIRE databases with the loop information obtained on behalf
16 of the competitor. Although this activity may be useful for future access to that
17 loop information (for both Verizon and competitors), it has nothing to do with the
18 objective of responding to the carrier that requested the Engineering Query, and
19 should be entirely eliminated from the Engineering Query cost and charge.

20 Instead, this work is a database maintenance or update activity, conceptually
21 similar to the work undertaken by Verizon to establish and maintain accurate

1 databases on an ongoing basis. Therefore, the costs associated with this work (to
2 the extent they are legitimate forward-looking costs) should be (and probably
3 already have been) treated the same as any other recurring cost—*i.e.*, recovered as
4 part of the recurring charge for the company's access lines.

5 Moreover, the task descriptions make clear that the process contemplated
6 by Verizon includes the costs of entering the same loop data *three* separate times:
7 first, into a worksheet (Step 15); second, into the loop make-up form (Step 16);
8 and third, into the LFACS and LIVEWIRE databases (Step 17). Verizon should
9 not charge competitors for such extensive data entry for the limited number of
10 loop data items being provided.

11 At a task level, Verizon's assumptions are also unreasonable. Given an
12 appropriate loop makeup form, there would be no need for Verizon to prepare a
13 separate, additional, worksheet. Verizon would enter the loop data only once.
14 Thereafter, the electronic loop makeup form could be forwarded to TISOC
15 without additional manual input (such as logging into a new system). Thus,
16 Verizon could update the data essentially at the press of a key, instead of the many
17 minutes that Verizon assumed (Step 18).

¹⁷¹ Verizon VA Wholesale Non-Recurring Costs Model, Tab 66.

1 **Q. IF THE COMMISSION, INAPPROPRIATELY, ALLOWS VERIZON TO**
2 **CHARGE ANY AMOUNT FOR MANUAL LOOP MAKEUP**
3 **INFORMATION OR AN “ENGINEERING QUERY,” WHAT WOULD BE**
4 **A REASONABLE ESTIMATE OF THE TYPICAL COST FOR THOSE**
5 **EFFORTS?**

6 A. Given modern databases and recordkeeping systems, it should not take any longer,
7 on average, than half an hour for an engineering assistant to pull loop makeup
8 information manually and fax or otherwise transmit that information to a
9 competitor. Therefore, if one assumes that Verizon’s labor rate for that employee
10 is about \$40, a total cost of about \$20 would be reasonable.

11 **Q. DOES THAT CONCLUDE YOUR TESTIMONY AT THIS TIME?**

12 A. Yes.

13

14

Attachment 1

DETAILED CRITIQUE AND RESTATEMENT OF VERIZON'S “CONDITIONING” AND ENGINEERING WORK ORDER TASKS AND TASK TIMES

Verizon’s Proposed Non-Recurring “Conditioning” Charge Does Not Reflect the Practices that an Efficient Carrier Would Employ to Perform the Tasks Necessary to Remove Load Coils and/or Excessive Bridged Tap

1. As we have explained through both the direct testimonies of Ms. Murray and the body of this AT&T/WorldCom Non-Recurring Cost and Advanced Services Reply Panel testimony, the forward-looking network architecture assumed in both the Synthesis Model sponsored by AT&T and WorldCom and the recurring cost studies sponsored by Verizon does not include any load coils or excessive bridged tap. Therefore, the non-recurring “conditioning” activities included in Verizon’s cost study would never occur in the forward-looking network and have no place in a forward-looking cost study.
2. If the Commission nonetheless decides to permit Verizon to levy a non-recurring “conditioning” charge, that charge should reflect the costs that a carrier would incur to removal load coils and excessive bridged taps using least-cost, most-efficient work practices. The tasks and task times on which Verizon has based its proposed non-recurring “conditioning” charges do not reflect such efficient work practices.
3. The one inefficient assumption that contributes most to Verizon’s overstated “conditioning” costs is its assumption that it will “condition” loops one-at-a-time. For example, Verizon assumes that it will remove load coils pursuant to each specific request and will remove the load coil from an individual loop. To the

contrary, it is a standard, efficient engineering practice to deload more than entire binder groups (typically 25 loops) at one time. Similarly, it is unusual and inefficient to remove bridge tap one-loop-at-a-time, as Verizon assumes will always be the case.

4. The standard practice in the industry is to prevent multiple re-entries into outside plant splices because multiple re-entries can cause serious deterioration in the wire insulation that will cause telephone wires to short out. Consequently, engineers have been instructed to engineer copper plant in terms of binder groups¹ of either 25 pairs or groups of 50 pairs. Based on prior Verizon testimony submitted in other jurisdictions on this topic and on general knowledge concerning engineering guidelines, there does not seem to be any dispute that outside plant is engineered to maintain “binder group integrity,” that is, not splitting a binder group for splicing purposes. For 30 years, incumbents such as the Verizon affiliates have used either Lucent 710 25-pair splice connectors or 3M MS2 25-pair splice connectors in their outside plant. Single-pair splicing has been outdated for decades. With either type of equipment, unless pairs are “conditioned” in multiples of 25 or 50 pairs, or more, at a time, a splice will soon degrade to the “bunch of grapes.”
5. There are times when only one pair can be “conditioned.” However, there are also cases where many hundreds of pairs at a time can be “conditioned.” Any non-recurring “conditioning” charge should be based on an approach that will be reasonable for the vast majority of cases. For example, if a load coil must be

removed from a 25-pair splice with other working lines that are longer than 18,000 feet of copper, then it would not be proper to deload the entire 25-pair group of pairs. However, there are other cases involving a 2400-pair cable working at 75% utilization (1800 working pairs, and 600 spare pairs). With 600 spare pairs, it would make sense to deload several hundred pairs in anticipation of rapid growth for DSL services. It makes no sense from either an engineering or an economic perspective to plan to “condition” one line at-a-time given the hundreds of thousands of customers that are projected to choose xDSL service over the next few years. An assumption that Verizon will typically “condition” 50 pairs at a time, to limit maintenance problems associated with multiple splice reentry, is a reasonable middle ground.

6. Information supplied by several incumbents confirms that that it is standard business practice to “condition” entire binder groups. As one example, parties showed that Southwestern Bell Telephone Company (“SWBT”) intended to use a multiple line conditioning approach for its own operations and, as a result, the Texas Public Utility Commission took a costing approach similar to the one we develop.² Likewise, Ms. Murray and Mr. Riolo recently participated in a Missouri proceeding in which the Missouri Public Service Commission staff had observed several actual SWBT “conditioning” jobs (as selected by SWBT). The staff summarized its observations as showing that:

¹ A “binder group” is designated as such because, inside a copper cable sheath, groups of pairs are segregated into manageable groups of pairs by binding such a group of either 25 pairs or 50 pairs with a thin color-coded ribbon wound around that group of pairs.

² See *Petition of Rhythms Links, Inc., for Arbitration to Establish an Interconnection Agreement with Southwestern Bell Telephone Company*, Texas PUC Docket Nos. 20226 and 20272, Arbitration Award at 97-98 (Nov. 30, 1999), *aff’d* Order Approving Interconnection Agreements (Feb. 7, 2000).

In many instances, during Staff's observations, SWBT engineers made the decision to condition twenty five to fifty loops when an order was made for one conditioned loop. Much of the work involved in loop conditioning is incurred in gaining access to and opening the splice case to reach the cable pairs. Therefore it is easy to see that the bulk of the work is to condition the first cable pair and, as such, there are efficiencies to be gained from conditioning additional cable pairs since the work necessary to gain access to and to open the splice case has already been performed.³

7. In the same Missouri proceeding (as in other jurisdictions), Jimmy R. Davis, a witness for Sprint Communications Company, L.P., ("Sprint") confirmed that in Sprint's incumbent local exchange company operations "it is common practice to remove load coils in bulk as opportunities arise."⁴
8. Similarly, SBC witness Dave Borders admitted in a Nevada regulatory proceeding that Pacific Bell and Nevada Bell practiced multiple loop "conditioning" until Pacific Telesis Group was acquired by SBC.⁵
9. As the calculations below demonstrate, the efficiencies gained by conditioning entire binder groups at once, are entirely ignored in the Verizon study, are substantial.
10. Removing bridged tap from older plant can have many ancillary benefits for Verizon. First, the requested conditioning for the service order is accomplished. Second, each pair unbridged at a branch splice location (a procedure that

³ Missouri Public Service Commission, Case No. TO-2001-439, Supplemental Direct Testimony of Myron E. Couch, Missouri Public Service Commission Utility Operations Division, June 1, 2001, at 3.

⁴ Missouri Public Service Commission, Case No. TO-2001-439, Rebuttal Testimony of Jimmy R. Davis, on behalf of Sprint Communications Company, June 22, 2001, at 7.

⁵ Public Utilities Commission of the State of Nevada, Docket No. 99-12033 and Docket No. 00-4001 at Tr. 640-643.

improves the existing service without disrupting it) transitions the network towards present-day engineering standards. (Verizon should have been unbridging pairs since the introduction of the Serving Area Concept (“SAC”) in 1972.) Third, transmission of voice-grade service on these working circuits is improved because the insertion loss, caused by the bridged tap, is removed. Fourth, the unbridged working circuits provide a base of preconditioned pairs that could be utilized for future services that are incompatible with excessive bridged tap: Verizon could provision loops for those services via a line and station transfer to one of the unbridged working circuits in lieu of opening cable splices to unbridge an individual pair at the time of the future service request. Fifth, the unbridged working services now have less exposure to maintenance problems, which will result in reduced customer trouble reports. Sixth, conditioning working service precludes the need to re-enter a working splice on numerous occasions to condition one pair at a time, which potentially causes customer outages. Seventh, unbridging working service does not require the amount of engineering study that would be involved if every spare pair was studied, grouped, and allocated to a specific branch cable. Because the actual “wire work” is a relatively minor portion of the cost of the job, this approach is cost-effective. Moreover, unbridging multiple pairs at a time substantially reduces the “conditioning” cost on a “per unit” basis. The benefit to Verizon is that the orders trigger an unbridging opportunity to clean up its outside plant – something that it should have been doing proactively since SAC design in 1972, but perhaps had no opportunity to do so because the particular bridged tap splice involved had no